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## **BLM: Michigan Can Meet Demand for Most Jobs Through 2018, but Long-Term Talent Supply Threatened by Demographic and Education Trends**

**DETROIT, Mich., April 27, 2016** —Michigan's top economic leaders today issued a series of findings that forecast the state's readiness to fill high-paying, high-demand jobs with educated and skilled workers.

And, while data show the state is generally prepared to meet the demand for high-wage jobs over the next three years, the ability to meet demand over the long-term is less certain.

"High-paying jobs—the ones that require more education and training—are going to continue growing in Michigan in the near term while low-skill, low-wage jobs are expected to contract," said Doug Rothwell, BLM President and CEO. "However, most of the jobs in Michigan are still low-skill and low-wage."

Rothwell said annual openings for low-skill occupations currently outpace openings for high-skill jobs.

"This is going to change soon, however, as jobs requiring only a high school diploma are expected to drop by more than 19,000," Rothwell said. "Conversely, jobs requiring an Associate's degree or higher are expected to grow by 21,000—the beginning of a trend that is going to grow exponentially in the years ahead."

This ground shift in workforce needs will be accelerated by demographic trends, including an aging workforce, a shrinking talent pipeline and low educational attainment.

"Michigan residents are 10<sup>th</sup> oldest in the nation," Rothwell said. "Coupled with a declining population of K-12 students, a low percentage of 25-34 year olds, and continuing low educational attainment, we face a significant talent gap over the long term."

Other key report findings include:

- **In 2015, there were over 4.5 million jobs in Michigan spread over 724 different occupations.**

(more)

Page Two

- Two-thirds of these jobs required a high school education or less and paid an average hourly wage of \$17.68—19 percent below the statewide average.
- The average hourly wage for jobs requiring an Associate's degree or higher paid an average hourly wage of \$34.27, which was 58 percent more than the state average and nearly double the wage for jobs requiring a high school diploma or less.
- **For high school graduates, the key to higher earnings is more training—the more you learn, the more you earn.** Only 19 percent of openings that require no, short, moderate, or long-term training pay above the statewide average hourly wage. In contrast, 66 percent of openings that call for an apprenticeship exceed the state average.
- **Supply shortages over the next few years span all levels of education and training and both STEM and non-STEM disciplines.**

Rothwell said many of his organization's initiatives are aimed at addressing this projected shortfall.

"We are eager to continue partnering with state and local leaders to help implement the Building a New Michigan Plan," Rothwell said. "The future success of each and every Michigan worker is dependent upon our efforts to compete, invest and grow in ways that make sense."

A full copy of *Business Leaders' Insights: Michigan's Talent Forecast* is available at <https://businessleadersformichigan.com/wp-content/uploads/2016/04/Business-Insights-Talent-Forecast-with-Appendix.pdf>

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**About Business Leaders for Michigan:**

Business Leaders for Michigan, the state's business roundtable, is dedicated to making Michigan a "Top Ten" state for jobs, personal income and a healthy economy. The organization is composed exclusively of the chairpersons, chief executive officers, or most senior executives of Michigan's largest companies and universities. Our members drive 32% of the state's economy, provide nearly 375,000 direct jobs in Michigan, generate over \$1 Trillion in annual revenue and serve nearly one half of all Michigan public university students. Find out more at: [www.businessleadersformichigan.com](http://www.businessleadersformichigan.com)

**Business Leaders' Insights:  
Michigan's Talent Forecast**

April 2016





1	Executive Summary
2	Michigan Talent Supply
5	Michigan Jobs Today
7	Michigan Jobs Over the Next Three Years
9	Matching Job Demand and Talent Supply
12	Talent Supply Challenges
14	Conclusions
15	Research Methodology & Data Limitations
16	Resources



## About Business Leaders for Michigan

Business Leaders for Michigan (BLM), the state's business roundtable, is dedicated to making Michigan a "Top Ten" state for job, economic, and personal income growth. The work of BLM is guided by the Building a New Michigan Plan, a holistic, fact-based strategy to achieve the organization's "Top Ten" goals. The organization is composed exclusively of the chairpersons, chief executive officers, or most senior executives of Michigan's largest companies and universities. Our members drive 32% of the state's economy, provide nearly 375,000 direct jobs in Michigan, generate over \$1 trillion in annual revenue and serve nearly one half of all Michigan public university students. Find out more at [www.businessleadersformichigan.com](http://www.businessleadersformichigan.com).

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## Executive Summary

Business Leaders for Michigan's goal of helping Michigan become a "Top Ten" state will be impacted by Michigan's ability to supply talent with the right education, training, and skills to fill high-paying, high-demand jobs.

Using data from Talent Market Analyst (a workforce analytics software solution developed in a partnership between Kelly Services, Inc. and Economic Modeling Specialists Intl. (EMSI), a subsidiary of CareerBuilder), this paper assesses the short-term outlook for expected job growth and Michigan's capability of matching projected job demand with talent supply. Finally, we discuss some of the obstacles Michigan faces as it works to produce necessary talent.

This report identifies the following primary findings:

1. Michigan appears to have the necessary talent supply to meet demand for high-wage jobs over the next three years. However, short-term gaps do exist, particularly for certain high-wage skilled trades occupations.
2. Jobs that require more education and training pay above average wages and are expected to grow through 2018, while jobs that require less education and training and pay below-average wages are expected to contract. Still, most of the jobs in Michigan today are low-skill and low-wage.
3. Annual job openings for low-skill occupations currently outpace openings for high-skill occupations, but the vast majority of occupations that pay above-average wages require more education and training.
4. Several demographic trends, including an aging workforce, a shrinking talent pipeline, and low educational attainment will continue to threaten our ability to meet future demand.

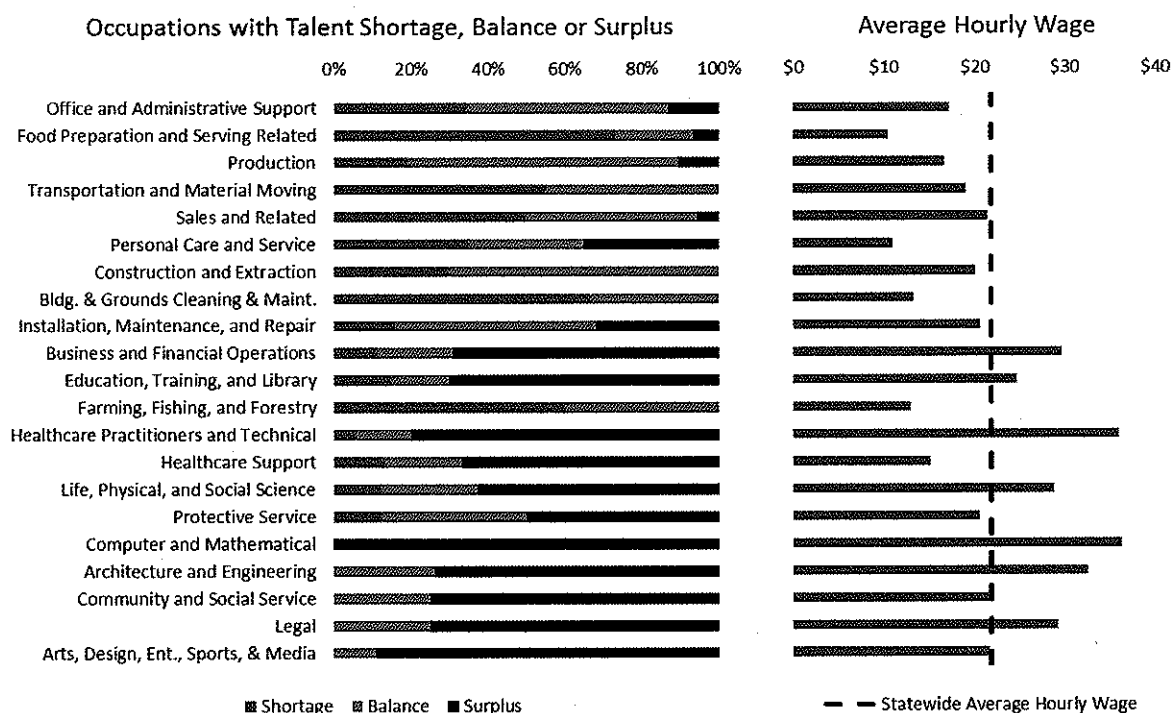
# Michigan Talent Supply

To assess whether Michigan has the talent supply to meet job demand, we looked at occupations expected to have at least 1,000 projected jobs in Michigan in 2018. We excluded occupations for managers and first-line supervisors, for which additional years of experience are required beyond just the typical entry level education or training. Talent demand is defined as the number of job openings projected each year.

Talent supply is determined by taking the number of regional completions in a degree or training program aligned with a specific occupation and subtracting the number of annual openings for that occupation.<sup>1</sup> A negative calculation indicates a talent shortage while a positive number indicates a surplus of qualified workers. In total, 411 occupations representing 89 percent of all projected annual job openings in Michigan were included in assessing supply and demand.

- **Michigan is generally producing talent with the right education and training to meet short-term demand.** As shown in Exhibit 1, only 23 percent of occupations are forecast to have a significant annual talent shortage (more than 100 completions below expected job openings) through 2018. Thirty-seven percent of occupations are in balance (within 100 completions plus or minus expected openings) and 40 percent have a surplus (more than 100 completions above expected openings).

Exhibit 1. 2015–2018 Talent Demand-Supply Balance for Major Occupation Groups and Average Hourly Wage<sup>2</sup>




<sup>1</sup> Data from Talent Market Analyst (a workforce analytics software solution developed in a partnership between Kelly Services, Inc. and Economic Modeling Specialists Intl. (EMSI), a subsidiary of CareerBuilder).

<sup>2</sup> Ibid.



- The most significant shortages exist for food preparation and serving related occupations, transportation and material moving occupations, building and grounds cleaning and maintenance occupations, and farming, fishing and forestry occupations. The average hourly wage for these occupations is \$14.81, however, which is 32 percent below the statewide average.
- Significant surpluses exist for 11 of the major occupation groups, including computer and mathematical occupations and architecture and engineering occupations. The average hourly wage for these 11 major occupation groups is \$27.90, which is 29 percent higher than the statewide average.



Between now and 2018,  
Michigan needs...

**125**

more plumbers,  
pipefitters &  
steamfitters

**232**

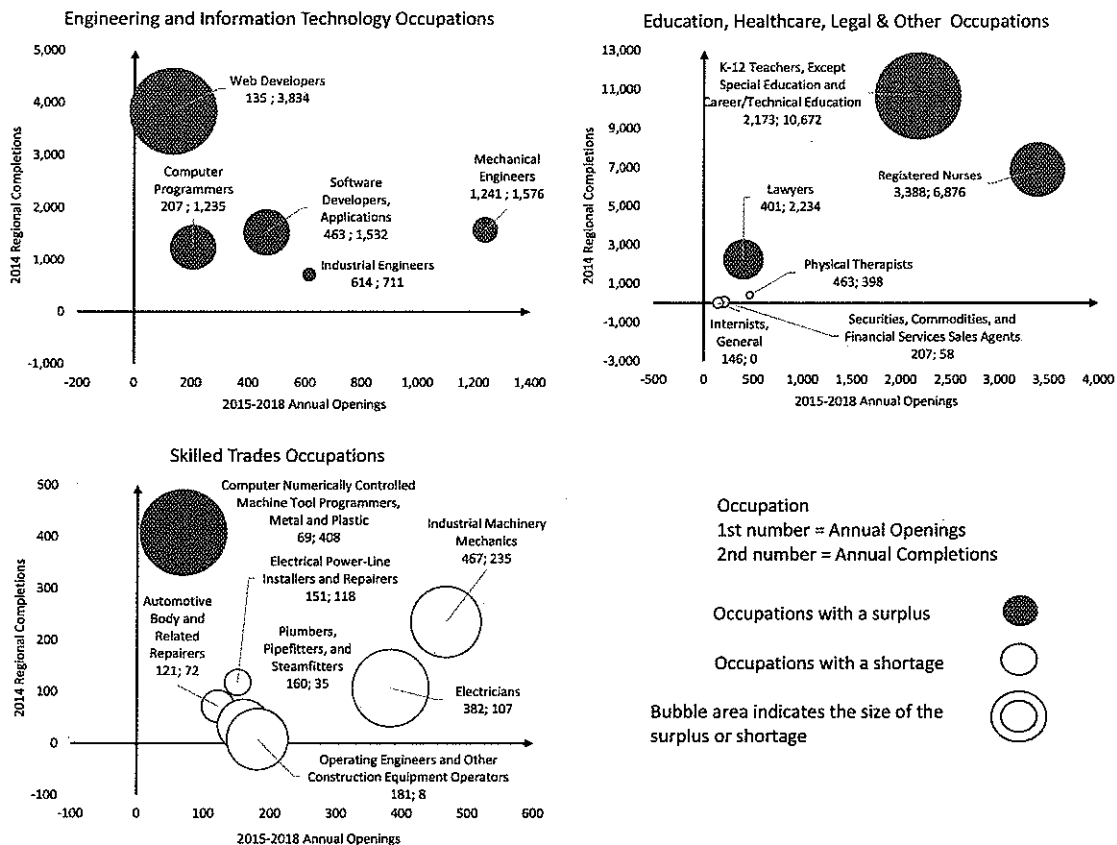
more industrial  
machinery mechanics  
and

**275**

more electricians  
each year

- **Significant short-term shortages exist for several high-wage skilled-trades occupations.** Exhibit 2 provides examples of the projected supply for several high-demand, high-wage occupations in Michigan through 2018.
  - Among engineering and information technology occupations, significant talent surpluses exist for web developers, software developers, and computer programmers with smaller surpluses for mechanical and industrial engineers.
  - In the education, healthcare and legal fields, there are significant surpluses for K-12 teachers, registered nurses, and lawyers while there are small shortages for general internists and physical therapists.
  - Certain skilled trades—plumbers, pipefitters, steam fitters, electricians, and industrial machinery mechanics— are experiencing major shortages. All of these occupations pay above the average hourly wage for the state.
- **Supply shortages over the next few years span all levels of education and training and both STEM and non-STEM disciplines.** Some surveys have shown that employers in some regions are having a difficult time finding CNC operators, nurses, engineers, and software developers; however the data shows that on a statewide basis we are producing enough people with those credentials. We also appear to have a more than adequate supply of teachers and lawyers; unlike the occupations above, however, these occupations are often singled out as examples of oversupply.

Exhibit 2. 2015–2018 Talent Demand-Supply Balance for Certain High-Wage Occupations<sup>3</sup>



<sup>3</sup> Ibid.

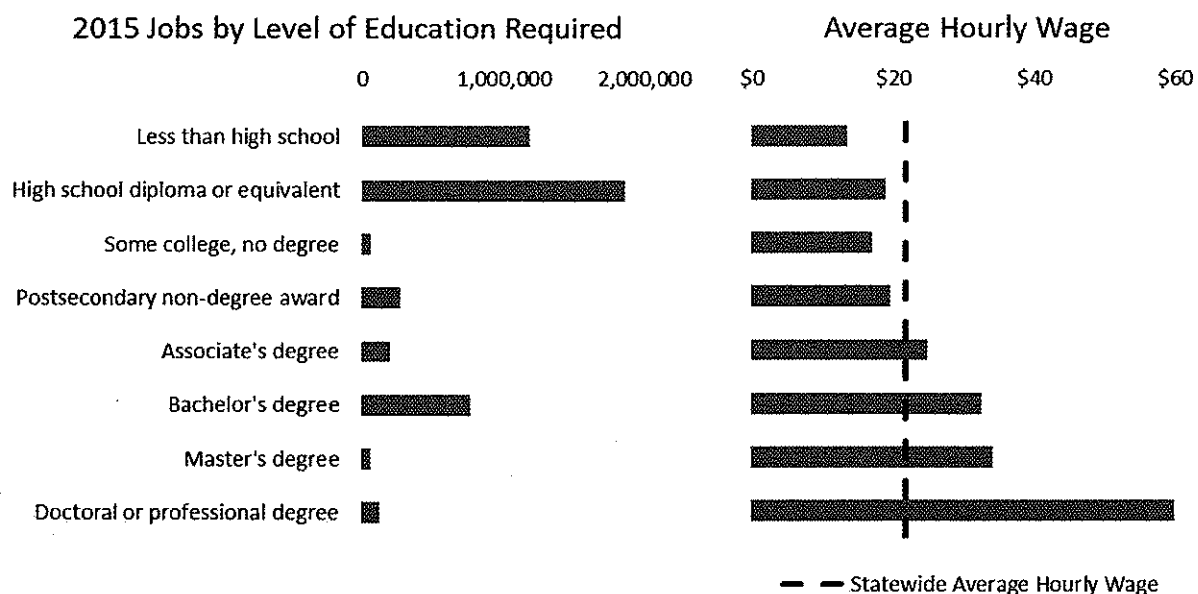


# Michigan Jobs Today

Annual job openings for low-skill occupations currently outpace openings for high-skill occupations, but the vast majority of occupations that pay above-average wages require more education and training.

- **The majority of jobs in Michigan in 2015 were low-skill and low-wage.** As shown in Exhibit 3, there were over 4.5 million jobs in Michigan spread over 724 different occupations during 2015, excluding approximately 19,000 jobs specific to the military.
  - Two-thirds (67 percent) of all jobs in the state in 2015 required a high school education or less and paid an average hourly wage of \$17.68, which was 19 percent below the statewide average of \$21.70.
  - The average hourly wage for jobs requiring an Associate's degree or higher paid an average hourly wage of \$34.27, which was 58 percent more than the state average hourly wage for all jobs and nearly double (94 percent more) than the state average hourly wage for jobs requiring a high school diploma or less.

Exhibit 3. 2015 Number of Michigan Jobs by Typical Entry Level Education and Average Hourly Wage<sup>4</sup>

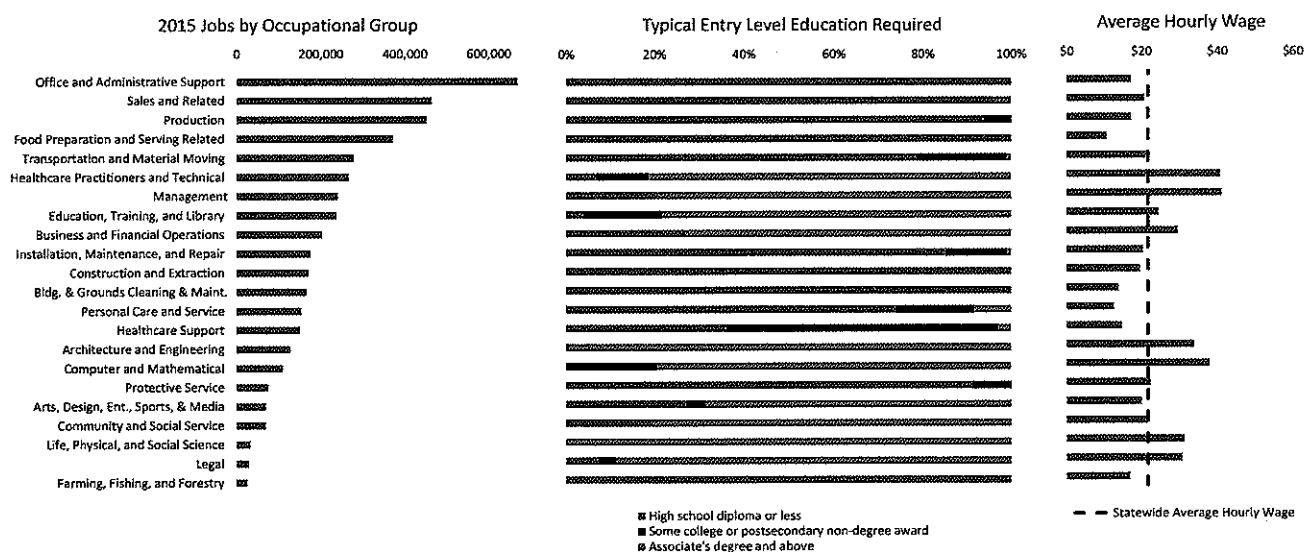


<sup>4</sup> Ibid.

- **Nearly half (49 percent) of Michigan jobs in 2015 fell into one of five areas.** As shown in Exhibit 4, jobs were plentiful in the office and administrative support occupations, sales and related occupations, production occupations, food preparation and serving related occupations, and transportation and material moving occupations.

- Almost all of these jobs (95 percent) require only a high school education or less and pay an average hourly wage that is less than the statewide average for all jobs.

Exhibit 4. 2015 Number of Michigan Jobs by Major Occupation Group, Percentage of Jobs by Typical Entry Level Education and Average Hourly Wage<sup>5</sup>



<sup>5</sup> Ibid.

**Average Hourly Wage:**

Associate's Degree or Higher

**\$34.27**

High School Diploma or Less

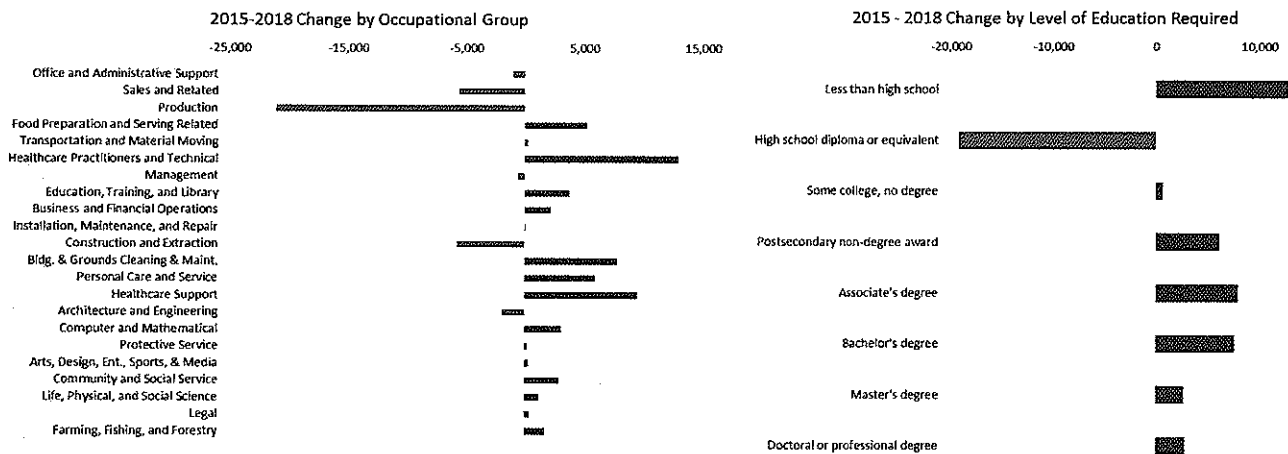
**\$17.68**

# Michigan Jobs Over the Next Three Years

Jobs that require more education and training pay above average wages and are expected to grow through 2018, while jobs that require less education and training and pay below-average wages are expected to contract.

- **Jobs growing the most over the next three years will require some level of education beyond high school.** As shown in Exhibit 5, most occupation groups are expected to experience modest job gains over the next three years, with jobs in healthcare-related fields expected to see the largest increases. However, office and administrative support occupations, sales and related occupations, and production occupations are expected to lose almost 28,000 jobs with most (76 percent) of those losses coming from production occupations.
- **Jobs requiring only a high school diploma are expected to drop by over 19,000, while jobs requiring less than a high school education that pay less than a living wage expected to increase.** Meanwhile, jobs requiring an Associate's degree or higher are expected to grow by 21,000—representing more than half of the 41,000 anticipated jobs to be added in the state.

Exhibit 5. 2015–2018 Michigan Job Growth by Major Occupation Group and Typical Entry Level Education<sup>6</sup>



<sup>6</sup> Ibid.

Jobs Requiring a  
High School Diploma

**down  
19,000**

Jobs Requiring  
an Associate's  
Degree or Higher

**up  
21,000**





# Michigan Job Demand

Job demand is defined as the number of job openings available each year due to growth, retirement or turnover. So even if net jobs for a given group such as production occupations are expected to fall, demand can still be present.

- **In-demand jobs that pay above average wages require more education and training.**

Through 2018, 76 percent of all job openings that pay above average wages require an Associate's degree or higher, as shown in Exhibit 6.

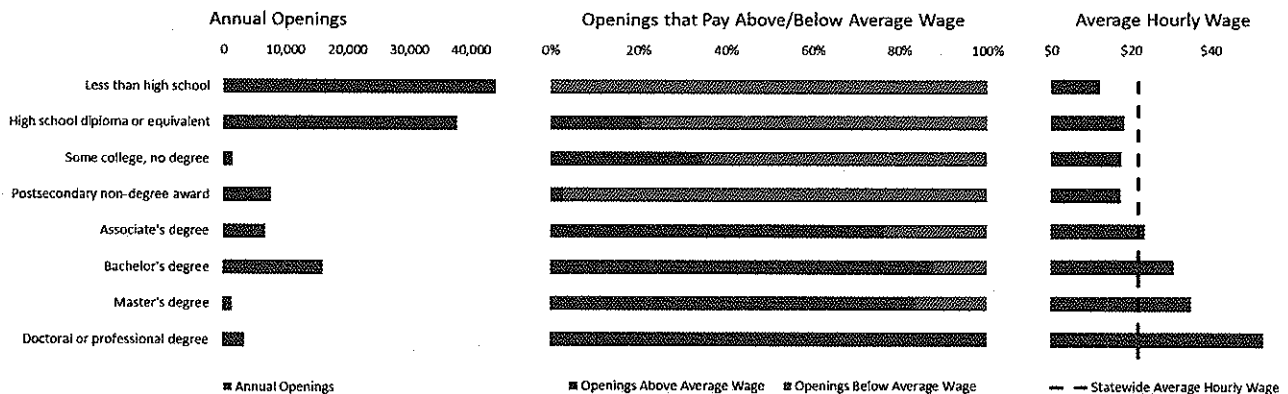
- 86 percent of openings that require an Associate's degree or above pay above the state average hourly wage.
- In contrast, there are no openings for occupations requiring less than a high school education paying above the statewide average hourly wage, and only 21 percent of occupations requiring a high school diploma meet that threshold.

- **The average hourly wage for openings that require a high school diploma or less is \$16.72.**

That is 23 percent lower than the statewide average of \$21.70.

- Openings that require an Associate's degree or above have an average hourly wage of \$31.68, which is 46 percent higher than the statewide average and 89 percent higher than the wage for openings that require only a high school diploma or less.

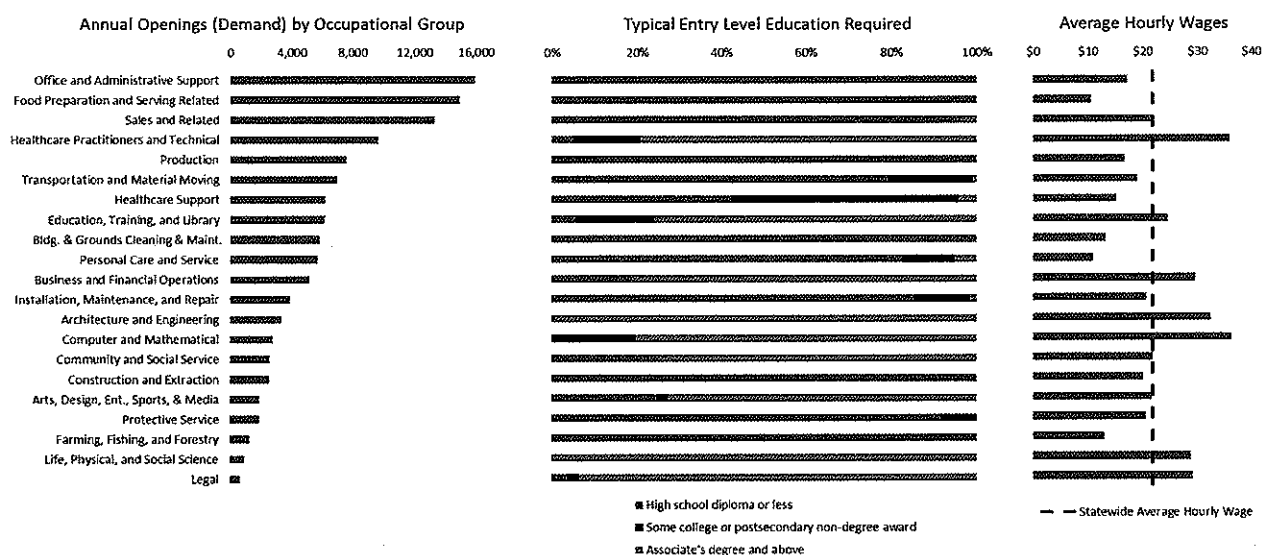
Exhibit 6. 2015–2018 Annual Job Openings by Typical Entry Level Education and Average Hourly Wage<sup>7</sup>



<sup>7</sup> Ibid.

- Overall, the greatest demand in the short term will be for occupations that require only a high school diploma or less at 82,000 openings annually. Demand for occupations that require an Associate's degree or higher is expected to be about 28,000 openings annually.
- As shown in Exhibit 7, five areas: office and administrative support occupations, food preparation and serving related occupations, sales and related occupations, healthcare practitioners and technical occupations, and production occupations— are expected to make up nearly 51 percent of annual job demand. Of these areas, only jobs in healthcare practitioners and technical occupations pay an average hourly wage above the statewide average.
- Finally, 79 percent of healthcare practitioner and technical occupation openings require an Associate's degree or higher. Nearly all openings (99 percent) in the other four areas require only a high school education or less.

Exhibit 7. 2015–2018 Annual Job Openings by Major Occupation Group, Percentage of Jobs by Typical Entry Level Education and Average Hourly Wage<sup>8</sup>

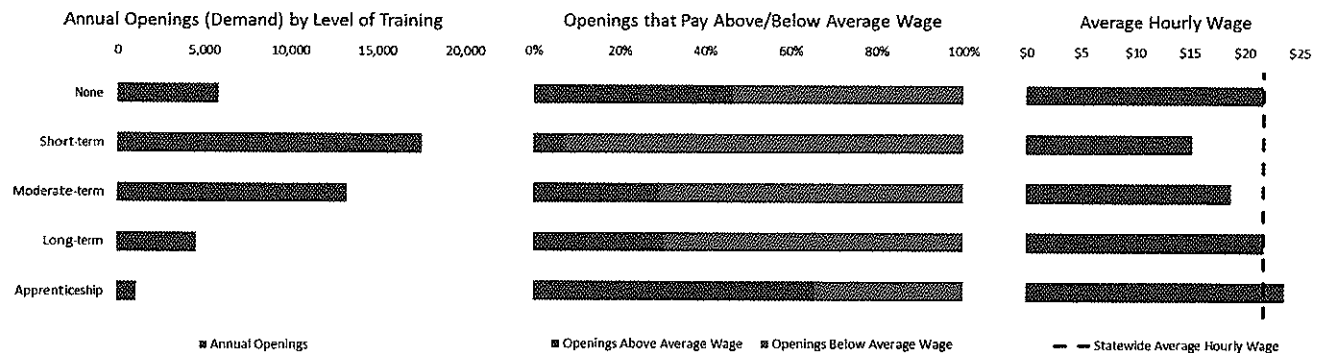


- For high school graduates, the key to higher earnings is more training. With 38,000 anticipated annual job openings through 2018, there will be opportunities for high school graduates, but earnings for occupations that require only a high school diploma vary widely with those requiring more training typically offering higher wages.

<sup>8</sup> Ibid.

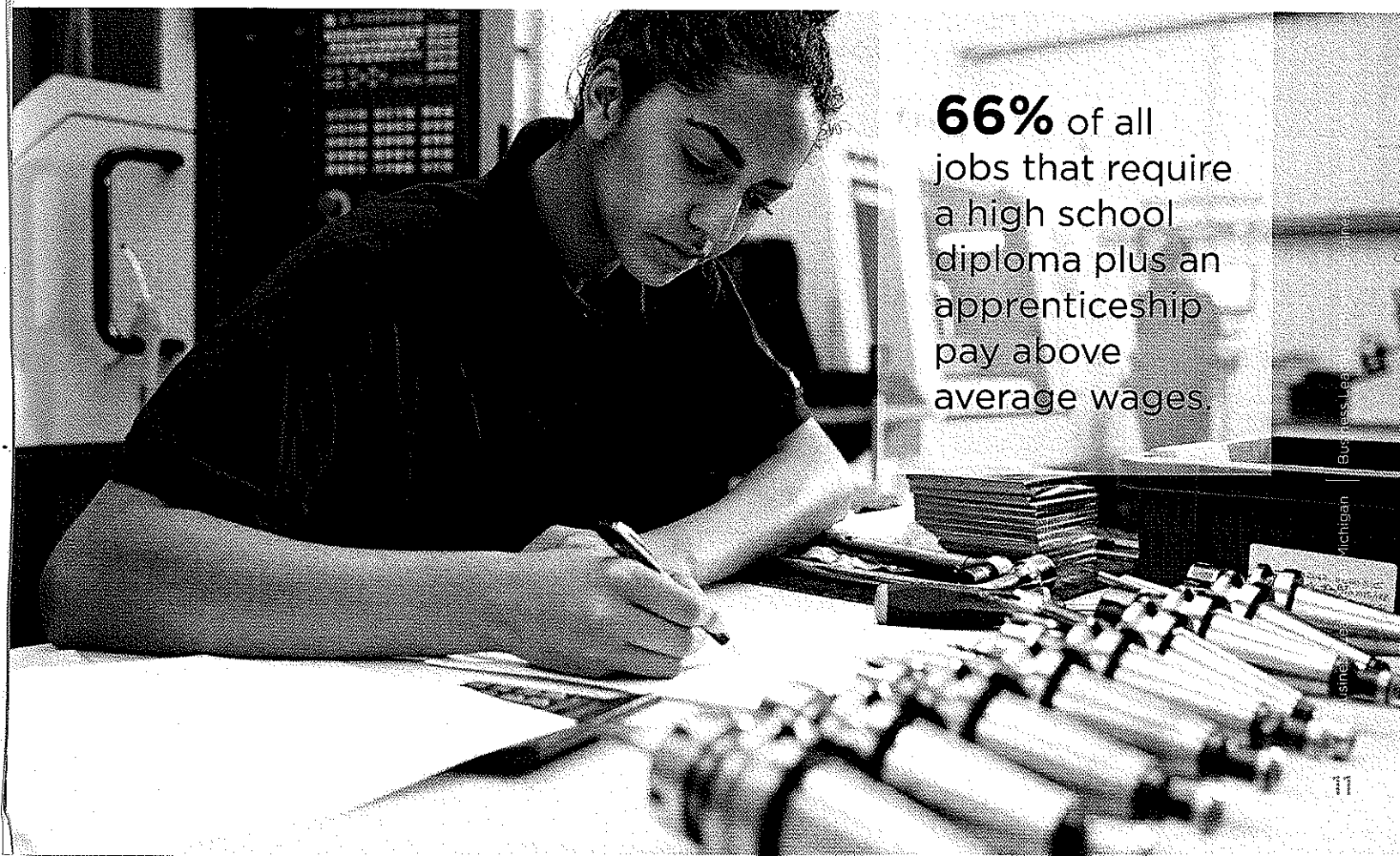
- As shown in Exhibit 8, only 19 percent of openings that require no, short-, moderate-, or long-term training pay above the statewide average hourly wage. In contrast, two-thirds (66 percent) of openings that call for an apprenticeship exceed the state average.
- The average hourly wage for openings that require only short- to moderate-term training is \$17.11, which is 21 percent less than the statewide average.
- At \$23.62, the average hourly wage for apprenticeship openings is 38 percent higher than the wage for openings requiring only short- or moderate-term training.

Exhibit 8. 2015–2018 Annual Job Openings for High School Graduates by Typical Training Required and Average Hourly Wage<sup>9</sup>



<sup>9</sup> *Ibid.*

**66%** of all jobs that require a high school diploma plus an apprenticeship pay above average wages.



## Talent Supply Challenges

Several demographic trends, including an aging workforce, a shrinking talent pipeline, and low educational attainment will continue to threaten our ability to meet future demand.

- **Michigan's ability to meet talent demands over the long term will be impacted if certain demographic trends are not addressed.** Despite an apparent surplus of talent for many high-demand, high-paying jobs, several demographic challenges remain. Most notably, Michigan's population is aging, as shown in Exhibit 9.
  - In 2005, Michigan's median age was on par with surrounding states in the Midwest region and was 1.5 years lower than the median age in the Northeast region. The median age of Michigan's population has accelerated faster than any region since then and now matches the Northeast at 39.6 years. This makes Michigan the 10th oldest state.<sup>10</sup>

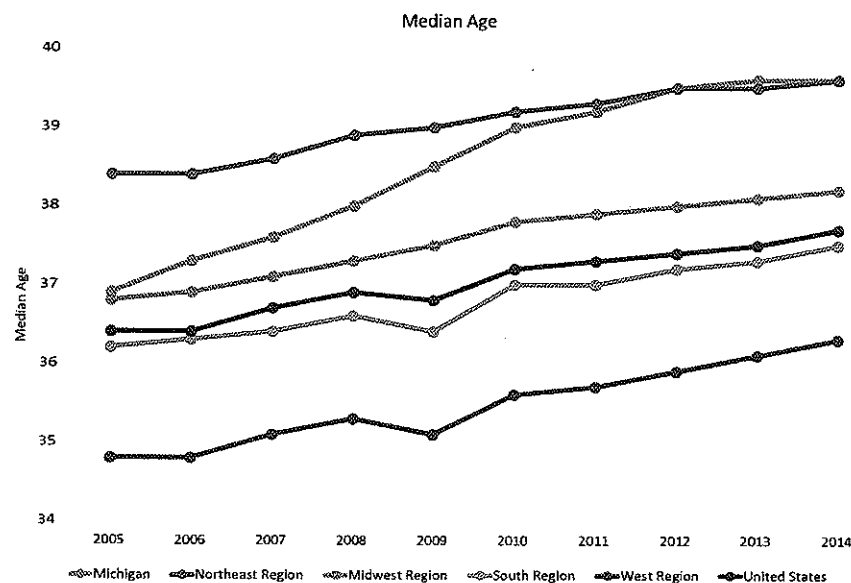
<sup>10</sup> 2015 Economic Competitiveness Benchmarking Report, Business Leaders for Michigan, November 2015, page 45



Michigan ranks  
**46<sup>th</sup>**  
for percentage  
of 25-34 yr. olds



Exhibit 9. Median Age of Michigan Population versus Other Regions of the Country<sup>11</sup>



Other challenges include:

- **A declining K-12 population.** The Michigan House Fiscal Agency reports that Michigan's K-12 student enrollment has decreased 13 percent (over 200,000 students) from its 2003 peak, and is expected to continue declining.<sup>12</sup>
- **A relatively low percentage of 25-34 year olds living in Michigan.** A higher percentage of 25-34 year olds in the population would signify a ready supply of young talent. Michigan ranks in the bottom five states for the percentage of 25-34 year olds, at just 12.1 percent<sup>13</sup>
- **Michigan's population is characterized by low educational attainment.** Michigan ranks in the bottom 10 states for 4th grade reading proficiency<sup>14</sup> and for the number of career and technical education classes in which students are enrolled.<sup>15</sup>
  - Only 22 percent of Michigan high school graduates are considered career- and college-ready, for a national ranking of 35th.<sup>16</sup>
  - Michigan ranks 31st for the percentage of working age adults (25-64 year olds) with an Associate's degree or higher.<sup>17</sup>
  - Michigan is in the bottom 10 states for college affordability (tuition rates)<sup>18</sup> and bottom five states for attracting out-of-state students.<sup>19</sup>

<sup>11</sup> U.S. Census Bureau, 2005 through 2014 American Community Survey 1-Year Estimates

<sup>12</sup> Michigan House Fiscal Agency School Aid Background Briefing, Bethany Wicksall and Samuel Christensen, January 2016, page 46

<sup>13</sup> 2015 Economic Competitiveness Benchmarking Report, Business Leaders for Michigan, November 2015, page 60

<sup>14</sup> U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2015 Reading Assessment

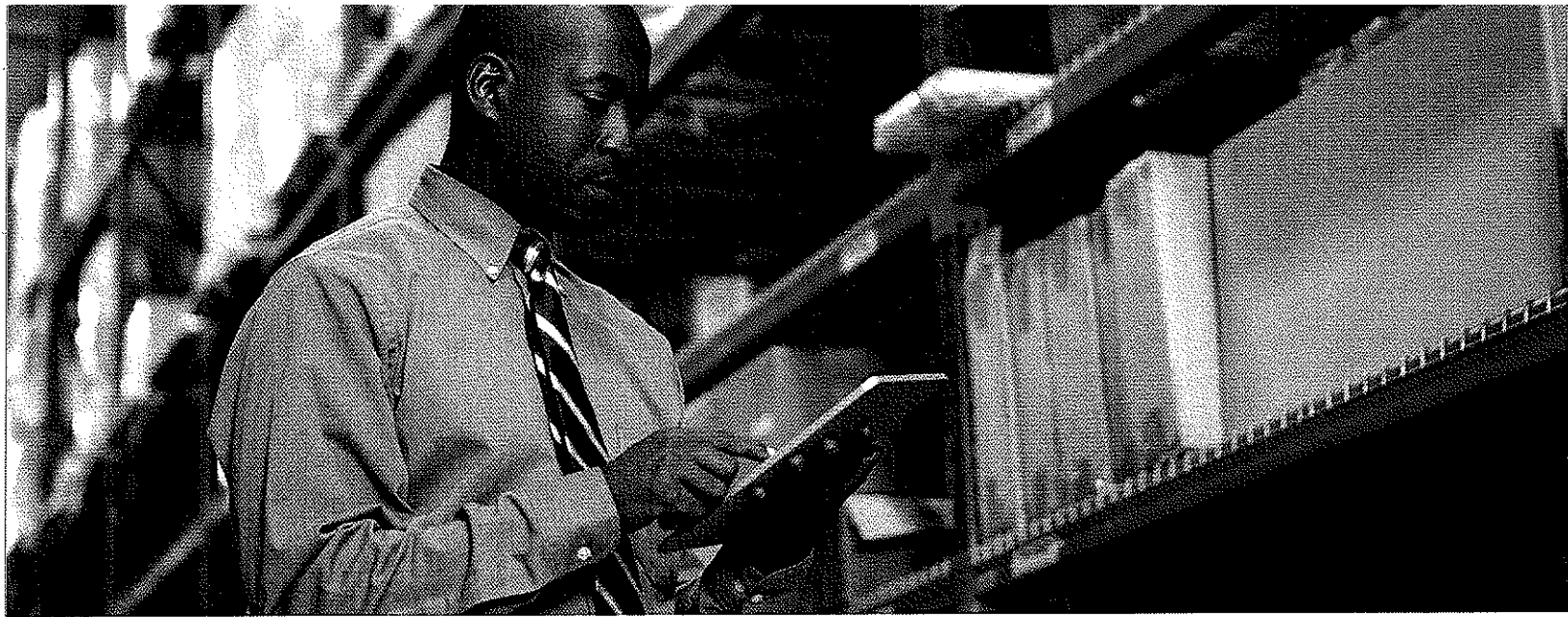
<sup>15</sup> 2015 Economic Competitiveness Benchmarking Report, Business Leaders for Michigan, November 2015, page 38

<sup>16</sup> Ibid., page 39

<sup>17</sup> Ibid., page 43

<sup>18</sup> The College Board, Annual Survey of Colleges, <http://trends.collegeboard.org/college-pricing/figures-tables/2015-16-state-tuition-and-fees-public-four-year-institutions-state-and-five-year-percentage>, February 2016

<sup>19</sup> 2015 Economic Competitiveness Benchmarking Report, Business Leaders for Michigan, November 2015, page 40



## Conclusions

In the short term, Michigan appears to have the necessary talent supply to meet demand for high-wage jobs with a few exceptions (such as in certain skilled trades occupations). However, other factors such as work-experience impact relative supply.

Jobs that pay above the average wage and are growing the fastest require education and training beyond high school. While the highest number of annual job openings require a high school degree or less, these jobs are shrinking and pay less than the statewide average hourly wage.

Several demographic trends, an aging workforce, shrinking talent pipeline, and low education attainment, will continue to threaten our ability to meet future demand.

If Michigan is to become a “Top Ten” state for jobs, personal income, and a healthy economy, we need to address our circumstances and these challenges head on, including taking the following steps:

1. Provide a more cohesive, competitive and consistent economic development strategy to grow more high-paying jobs.
2. Support high standards and aligned assessments for student learning, so young people are prepared to continue their education and training.
3. Raise awareness of the need for more talent with education and training beyond high school to encourage students to continue their career preparation.
4. Increase enrollments by marketing to both in-state and out-of-state students to fill the talent gap created by a declining population of young adults.
5. Provide students, parents, and adult workers with the necessary data to make informed decisions about scholastic and career paths to help better match talent supply with job demand.
6. Increase collaboration between higher education institutions and business to provide more effective school to work transitions.
7. Increase performance funding for higher education institutions to make college more affordable.

## Research Methodology & Data Considerations

Business Leaders for Michigan (BLM) commissioned Kelly Services to update a 2013 analysis which identified the occupations in Michigan having the greatest excess or shortfall of talent based on a comparison of job openings and educational program completions. The data utilized to develop this report comes from Talent Market Analyst, a workforce analytics software solution developed in a partnership between Kelly Services, Inc. and Economic Modeling Specialists Intl. (EMSI), a subsidiary of CareerBuilder. A complete list of all occupations used in the analysis can be found in the Appendix available at [www.businessleadersformichigan.com/bus-insights-appendix/](http://www.businessleadersformichigan.com/bus-insights-appendix/).

Other factors to consider when using completions in calculating supply projections:

- The accuracy of completions data declines rapidly beyond three years due to the dynamics of the economy, productivity and use of technology.
- Many degrees (supply) can fill multiple types of jobs (demand). For example, a business administration degree could be used to fill managerial, operational or analytical positions.
- Conversely, some occupations, such as middle school and secondary teachers, map to more general degree programs (e.g., general education), so completions aren't always an accurate proxy for supply since those completions are counted across multiple occupations.
- Many jobs (demand) are so specialized they can't be accurately matched with corresponding educational programs (supply). This is particularly true for new and emerging occupations in technology fields.
- Many jobs (demand) require experience plus degrees making it difficult to identify the supply of talent available to fill such openings. For example, Michigan is projected to produce more registered nurses than the number of projected job openings. However, those openings may require a level of experience that cannot be met by a new graduate, and that may be why employers continue to have difficulty filling those positions.
- Many jobs are changing so quickly, it's difficult to accurately forecast what the best educational preparation will be for those positions.
- As we work to close the talent supply-demand gap, it's important to understand that the number of completions in a given program (supply) is just one data point, and while informative, it is not conclusive.

## Resources

- Talent Market Analyst, a workforce analytics software solution developed in a partnership between Kelly Services, Inc. and Economic Modeling Specialists Intl. (EMSI), a subsidiary of CareerBuilder
- 2015 Economic Competitiveness Benchmarking Report, Business Leaders for Michigan, November 2015
- U.S. Census Bureau, 2005 through 2014 American Community Survey 1-Year Estimates
- Michigan House Fiscal Agency School Aid Background Briefing, Bethany Wicksall and Samuel Christensen, January 2016
- U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 2015 Reading Assessment
- The College Board, Annual Survey of Colleges, <http://trends.collegeboard.org/college-pricing/figures-tables/2015-16-state-tuition-and-fees-public-four-year-institutions-state-and-five-year-percentage>, February 2016





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